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10/565,593	01/23/2006	David Hoikhman	HOIKHMAN=1	2249

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EXAMINER	
SHEIKH, HUMERA N	

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1615	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/565,593	HOIKHMAN ET AL.	
	Examiner	Art Unit	
	Humera N. Sheikh	1615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 January 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) *11* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 January 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *01/23/06; 02/01/10*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Status of the Application

Receipt of the Response to Restriction/Election requirement filed 01/15/10 and the Information Disclosure Statement(s) filed 01/23/06 and 02/01/10 is acknowledged.

Applicant's election without traverse of Group I (claims 1-10) and election with traverse for the election of species: (1) election of hydrophilic polymer – (a) guar gum, xanthan gum; (2) election of active ingredient - (a) drug and (3) election of controlled release dosage form - (a) tablet, caplet, vegecap in the reply filed on 15 January 2010 is acknowledged. The traversal is on the ground(s) that "The generic claims themselves define a single general inventive concept under PCT Rules 13.1 and 13.2". This ground for traversal has been considered and was found to be persuasive. Accordingly, the election of species requirement for categories (1)-(3) (found on page 3 of the Restriction dated 8/18/09) has been vacated. Accordingly, claims 1-10 will be examined in this action.

Claim 11 has been withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 15 January 2010.

Claims 1-11 are pending in this action. Claim 11 has been withdrawn. Claims 1-10 have been examined in this action. Claims 1-10 are rejected.

* * * * *

Information Disclosure Statement

The information disclosure statements (IDS) submitted on 01/23/06 and 02/01/10 are acknowledged. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statements are being considered by the examiner.

* * * * *

Specification

The disclosure is objected to because of the following informalities:

The specification, page 1, line 5 recites "Orally administered dosage forms are is most cases". It appears that "is" was intended to be recited as "in".

The specification, page 1, line 6 & 31 recites "per-os". The meaning of this term is not understood. If "os" is an abbreviation, it is suggested that the term be written out in its entirety, wherever it occurs in the specification.

The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Appropriate correction is required.

* * * * *

Claim Objections

Claims 1-5 and 7 are objected to because of the following informalities:

Claim 1, last line recites "matrix;". A period (.) should replace the semi-colon (;) after the term "matrix".

Claim 2 recites "selected from the group comprising". This limitation does not provide for proper Markush terminology. The claim should be amended to recite "selected from the group consisting of" (rather than "comprising") to render the claim in proper Markush format.

Claim 2 also recites "...sodium salt, xantan gum". The term "and" is missing between "salt" and "xantan". The term "and" is necessary for proper Markush formatting.

Claim 2 also recites "xantan gum". The term "xantan" contains a typographical error and should be recited as "xanthan".

Claim 3 recites "Dosage forms" representing plural dosage forms. The term "Dosage forms" should be corrected to recite "The dosage form...according to claim 1", to represent the singular form.

Claim 4 recites the abbreviation "HPMC". The term "HPMC" should be written out in its entirety (i.e., hydroxypropylmethyl cellulose).

Claim 5 recites "selected from the group comprising of". This limitation does not provide for proper Markush terminology. The claim should be amended to recite "selected from the group consisting of" (rather than "comprising of") to render the claim in proper Markush format.

Claim 5, first line, recites "wherein at least one drug". The phrase should be amended to recite "wherein the at least one drug", to provide for antecedent basis for the drug component.

Claim 7 recites "...ciprofloxacin, levodopa". The term "and" is missing between "ciprofloxacin" and "levodopa". The term "and" is necessary for proper Markush formatting.

Appropriate correction is required.

* * * * *

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 5, 6 and 8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5 recites the drugs "respiratory stimulants" and "drugs for respiratory organs". It is unclear if these two terms are synonymous with each other. For instance, it would appear that "respiratory stimulants" would fall within the category "drugs for respiratory organs". Alternatively stated, "drugs for respiratory organs" would appear to encompass "respiratory stimulants". Clarification is requested.

Claim 5 recites "stomachic digestants" and "digestive drugs". It is unclear if these two terms are synonymous with each other. For instance, it would appear that "stomachic digestants" would fall within the category "digestive drugs". Alternatively stated, "digestive drugs" would appear to encompass "stomachic digestants". Clarification is requested.

Claim 5 recites "drugs for blood or body fluid". It is unclear as to what particular drugs Applicant is referring to. A multitude of drugs are directed for "blood and body fluids". The limitation as presently recited is indefinite and vague because the limitation can read on an array of pharmaceutically active agents. Clarification is requested.

Claim 6 recites "the dosage form…wherein the drug has preferred absorption at the upper parts of the gastric-intestine". The claim is indefinite because it is unclear as to what is intended by this limitation. What particular "upper parts" of the gastric-intestine is Applicant referring to?

Is Applicant referring to only to the stomach area or the beginning of the intestine, i.e., duodenum? The term "upper parts" is vague and relative in terms of what precise area of the gastrointestinal tract Applicant is making reference to. Clarification is requested.

Claim 8 recites "…other non-active pharmaceutically acceptable additives…". The term "other" renders the claim indefinite because it is unclear as to what additional pharmaceutically acceptable additives Applicant is making reference to. It is suggested that the term "other" be deleted from the claim limitation.

Claim 8 recites "coatings". The term "coatings" renders the claim indefinite because the term can be used in a manner applied for "active" components in the dosage form, as well as "non-active" components. For instance, "coatings" can be considered an "active" component if applied to sustained-release coatings, enteric coatings, gastro-soluble coatings, etc, whereas a "non-active" component can be for example, a film-coating used for taste-masking or taste-modifying purposes. Clarification is requested.

* * * * *

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5 and 8-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Skinner (U.S. Patent No. 6,210,710).

Skinner ('710) discloses a sustained release pharmaceutical composition comprising a polymer blend formed with a medicament present in a therapeutic amount wherein the polymer blend contains at least a first component and a second component (see column 1, line 4 - col. 2, line 4). A number of polymers may be used in the matrix blend of the invention. Suitable polymers disclosed include hydroxypropylcellulose (HPC), ethylcellulose (EC), hydroxypropylmethylcellulose (HPMC), carboxymethylcellulose (CMC) and the like (col. 2, line 51 – col. 3, line 63). The blend contains at least two components, while even three, four or five can be used (col. 2, lines 29-37). These polymers read on the "one or more hydrophilic polymers" claimed by Applicant and thus read on instant claims 1-4. Examples of suitable polysaccharides employed in the invention are disclosed at column 2, line 64 – col. 3, line 24 and include, for example, gellan gum, guar/guar derivatives, xanthan gum, agar, algin, starch, modified starches and the like. See also claim 1 at column 13. These ingredients can be used alone or as mixtures thereof. These ingredients read on the gellan gum and hydrophilic polymers of instant claims 1-3. Drugs are added in the matrix formulation and include, for example, anti-inflammatory substances, stimulants, antihistamines, anti-infectives, vitamins, analgesics and the like (col. 3, line 31 - col. 4, line 33). These drugs read on claim 5. Fillers, excipients, lubricants, flavoring agents, coloring agents, bulking agents and the like are also added (col. 4, lines 46-65). These read on the additives of claim 8. The solid dosage forms can have many forms including a homogeneous or random matrix (tablet) form (col. 5, lines 10-27). Suitable forms also include tablets, lozenges, gelcaps, suspensions, gels and the like (see claim 7 at col. 14). These teachings read on instant claims 9 and 10.

The instant claims are anticipated by Skinner.

* * * * *

Claims 1-3, 5, 8 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Illum (U.S. Patent No. 5,935,604).

Illum ('604) discloses a drug delivery composition adapted to deliver a pulse of nicotine for rapid absorption and controlled release of nicotine for subsequent sustained absorption. The controlled release phase can be achieved by providing an ion-exchange material, such as a polysaccharide, which will form a complex with the nicotine (see Abstract); (col. 3, lines 21-37). Suitable polymeric materials disclosed include gellan gum, alginate, carboxymethylcellulose (CMC), xanthan gum, agar, guar derivatives and the like. A preferred material is gellan gum (col. 7, lines 23-43). Mixtures of gellan gum with other polymers such as alginate can be used, gelling of the mixture being caused by the gellan gum. The grade of gellan gum can be GELRITE^{TM} or KELCOGEL^{TM} (col. 8, lines 17-33). The examples at columns 10-12 demonstrate various embodiments of the invention. Example 5, for instance, demonstrates a preparation of nicotine alginate gum microspheres, whereby an aqueous solution was prepared containing various amounts of sodium alginate, gellan gum and nicotine dihydrogen tartrate. These teachings read on instant claims 1-3 and 5. The compositions include pharmacologically-acceptable, non-toxic ingredients such as preservatives, antioxidants, flavorings, etc. (col. 9, lines 13-20). This teaching reads on claim 8. The preparations can be in the form of microspheres that are further packed into gelatin capsules (col. 10, lines 12-16). This teaching reads on claim 10.

The instant claims are anticipated by Illum.

* * * * *

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Skinner (U.S. Patent No. 6,210,710).

The teachings of Skinner (‘710) are discussed above.

Skinner does not teach that their "drug has preferred absorption at the upper parts of the gastric-intestine" (claim 6). Skinner also does not teach the selective drugs of claim 7.

With respect to the limitations of claim 6, it is the position of the Examiner that Skinner meets this limitation. Skinner explicitly teaches controlled or sustained release dosage forms which allow for the delivery of a medicament at an appropriate rate to provide the desired therapeutic activity for a prolonged period of time (col. 1, lines 10-22). The controlled/sustained release formulations of Skinner provide for polymeric blends to delay or control the release of a drug to yield a wide range of release profiles and thus provide improved sustained release characteristics (col. 2, lines 8-22). Moreover, Applicant is claiming the "upper parts of the gastric-intestine" as a preferred location of absorption. The matrix formulations of Skinner are designed to release drug in the GI tract and would include the "upper parts" claimed by Applicant. "[I]n considering the disclosure of a reference, it is proper to take into account not only specific teachings of the reference but also the inferences which one skilled in the art would reasonably be expected to draw therefrom." In re Preda, 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968). Absent a showing of evidence to the contrary, the formulations of Skinner would also enable absorption at various locations of the GI tract, including the preferred portions (i.e., upper parts) claimed. Moreover, one of ordinary skill in the art would formulate a controlled or sustained release composition in order to provide for improved therapeutic effects and enhanced bioavailability.

With respect to the limitations of claim 7, it is the position of the Examiner that Skinner also meets this limitation. Skinner explicitly teaches controlled or sustained release formulations comprising drugs that include for example, anti-inflammatory substances, stimulants,

antihistamines, anti-infectives, vitamins, analgesics and the like (col. 3, line 31 - col. 4, line 33). These generic classes of drugs read on and encompass the species-specific drugs claimed by Applicant in claim 7. For instance, the reference teaches the inclusion of anti-infectives, which would read on the antibiotics (i.e., clarithromycin, ciprofloxacin) of claim 7.

Hence, the instant invention would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, given the explicit teachings of Skinner. Skinner teaches a controlled release matrix dosage form comprising the inclusion of polysaccharides (i.e., gellan gum, guar gum, xanthan gum and mixtures thereof) in combination with hydrophilic polymers (i.e., CMC, HPMC, etc.) and active ingredients (i.e., anti-infectives). Excipients and additives are also included in the formulation. The dosage forms are suitable for oral administration such as in the form of tablets.

* * * * *

Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baichwal *et al.* (hereinafter "Baichwal") (U.S. Patent No. 5,958,456) in view of Skinner (U.S. Patent No. 6,210,710).

Baichwal ('456) teaches a controlled release formulation comprising active medicaments, formulated as a compressed granulate using a combination of a controlled release excipient comprising a gelling agent and a swelling agent, such as for example, homopolysaccharide gum, a heteropolysaccharide gum and an inert diluent (see column 2, lines 35-41). A preferred heteropolysaccharide gum includes xanthan gum and a preferred homopolysaccharide gum includes locust bean gum (col. 2, lines 42-47). Other acceptable gelling agents disclosed include, for example, alginates, carrageenan, pectin, guar gum, HPMC,

sodium carboxymethylcellulose and the like (col. 6, lines 37-45). The diluent can be a saccaharide (i.e., lactose) (col. 2, lines 56-64). Suitable active agents are disclosed at column 8, lines 21-65). The dosage form is provided as an oral dosage form (col. 2, lines 48-49), such as in the form of tablets (col. 9, lines 5-21). These teachings read on instant claims 1-5 and 8-10.

With respect to the limitations of claim 6, it is the position of the Examiner that Baichwal meets this limitation. Baichwal explicitly teaches controlled or sustained release dosage forms which allow for the delivery of a medicament at a sustained rate to provide for therapeutically-effective blood levels of the medicament activity for a prolonged period of time, e.g., 12 or 24 hours, without allowing an excessive early release of medication, and where the release kinetic are unaffected by the contents of the patients gastrointestinal tract (col. 2, lines 22-30). Moreover, Applicant is claiming the "upper parts of the gastric-intestine" as a preferred location of absorption. The controlled release formulations of Baichwal are designed to release drug in the GI tract and would include the "upper parts" claimed by Applicant. "[I]n considering the disclosure of a reference, it is proper to take into account not only specific teachings of the reference but also the inferences which one skilled in the art would reasonably be expected to draw therefrom." *In re Preda*, 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968). Absent a showing of evidence to the contrary, the formulations of Baichwal would also enable absorption at various locations of the GI tract, including the preferred portions (i.e., upper parts) claimed. Moreover, one of ordinary skill in the art would formulate a controlled or sustained release composition in order to provide for improved therapeutic effects and enhanced bioavailability.

With respect to the limitations of claim 7, it is the position of the Examiner that Baichwal meets this limitation. Baichwal explicitly teaches controlled or sustained release formulations

comprising drugs that include for example, anti-inflammatory substances, stimulants, antihistamines, antibiotics, vitamins, analgesics and the like (col. 8, lines 21-65). These generic classes of drugs read on and encompass the species-specific drugs claimed by Applicant in claim 7. For instance, the reference teaches the inclusion of antibiotics, which would read on the antibiotics (i.e., clarithromycin, ciprofloxacin) of claim 7.

Baichwal does not teach gellan gum.

Skinner ('710) teaches a sustained release pharmaceutical composition comprising a polymer blend formed with a medicament present in a therapeutic amount wherein the polymer blend contains at least a first component and a second component (see column 1, line 4 - col. 2, line 4). A number of polymers may be used in the matrix blend of the invention. Polysaccharides employed in the invention are disclosed at column 2, line 64 – col. 3, line 24 and include, for example, gellan gum, guar/guar derivatives, xanthan gum, agar, algin, starch, modified starches and the like. See also claim 1 at column 13. These ingredients can be used alone or as mixtures thereof. Suitable polymers disclosed include hydroxypropylcellulose (HPC), ethylcellulose (EC), hydroxypropylmethylcellulose (HPMC), carboxymethylcellulose (CMC) and the like (col. 2, line 51 – col. 3, line 63). The blend contains at least two components, while even three, four or five can be used (col. 2, lines 29-37). Skinner teaches that the polymeric/polysaccharide blends improve the sustained release characteristics, improve the tablet hardness, tablet friability and produce an overall enhanced tabletting performance. The solid dosage forms can be in suitable forms that include tablets, lozenges, gelcaps, suspensions, gels and the like (see claim 7 at col. 14).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the gellan gum taught by Skinner within the controlled release formulation of Baichwal. One would do so with a reasonable expectation of success because Skinner teaches that the polysaccharide/polymeric blend enables the improvement of sustained release characteristics as well as enhancing overall tabletting performance. The expected result would be an improved and effective controlled release formulation for the delivery of therapeutic agents.

Conclusion

Claims 1-10 are rejected.

Claim 11 has been withdrawn.

--No claims are allowed at this time.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Humera N. Sheikh whose telephone number is (571) 272-0604. The examiner can normally be reached on Monday-Friday during regular business hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert A. Wax, can be reached on (571) 272-0623. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have any questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Humera N. Sheikh/
Primary Examiner, Art Unit 1615

hns

March 29, 2010